

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended) A packet transfer device that interworks an ~~MPLS~~ a multiprotocol label switching (MPLS) network which uses a MPLS multiprotocol label switching ~~(hereinafter referred to as "MPLS")~~ protocol, and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by ~~the MPLS~~ a MPLS header which is added before ~~the header~~ a header of ~~the layer~~ a layer corresponding to layer 3 of the Open System Interconnection (OSI) model (hereinafter referred to as ~~"layer 3 header"~~ layer 3 header); ~~and, and~~

in a network which does not use said MPLS protocol, packet switching is performed by ~~the header~~ a header of the layer corresponding to layer 2 of the OSI model (hereinafter referred to as ~~"layer 2 header"~~ layer 2 header), which is different from said MPLS header and is added before said layer 3 header, and

wherein said packet transfer device comprising ~~comprises~~:

a first physical port which receives a packet that is transmitted from a network which does not use said MPLS ~~protocol~~ protocol,

a second physical port for connecting with said MPLS ~~network~~ network,

~~memory~~ a memory that stores ~~the header~~ header transformation information

that shows ~~the correspondence~~ correspondence between a pair of ~~the information~~ information in said layer 2 header and ~~the information~~ information in said layer 3 header, ~~and the~~ in correspondence with information in said MPLS header; ~~header~~ and

a processor that searches said header transformation information and transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to ~~its~~ said layer 2 header.

2. (currently amended) The packet transfer device recited in claim 1, wherein:  
the information in said layer 2 header is ~~the information~~ information that identifies ~~the groups~~ groups to which ~~the~~ a transmission source and destination of a packet that is transmitted from a network which does not use said MPLS protocol ~~belong~~; belong, and

the information in said MPLS header is ~~the label~~ a label value in said MPLS header.

3. (currently amended) ~~The packet~~ A packet transfer device recited in claim 2 that interworks a multiprotocol label switching (MPLS) network which uses a MPLS protocol, and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by a MPLS header which is added before a header of a layer corresponding to layer 3 of the Open System Interconnection (OSI) model (layer 3 header), and

in a network which does not use said MPLS protocol, packet switching is performed by a header of a layer corresponding to layer 2 of the OSI model (layer 2 header), which is different from said MPLS header and is added before said layer 3 header, and

wherein said packet transfer device comprises:

a first physical port which receives a packet that is transmitted from a network which does not use said MPLS protocol,

a second physical port for connecting with said MPLS network,

a memory that stores header transformation information that shows correspondence between a pair of information in said layer 2 header and information in said layer 3 header in correspondence with information in said MPLS header, and

a processor that searches said header transformation information and transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to said layer 2 header,

wherein the information in said layer 2 header is information that identifies groups to which a transmission source and destination of a packet that is transmitted from a network which does not use said MPLS protocol belongs, and the information in said MPLS header is a label value in said MPLS header,

wherein:

a physical port number is assigned to said first physical port; and

said header transformation information shows the correspondence between a group of said physical port number, the information that

identifies the groups to which the transmission source and destination of a packet transmitted from a network which does not use said MPLS protocol belong and the information in said layer 3 header, and said label value.

4. (currently amended) The packet transfer device that interworks a multiprotocol label switching (MPLS) network which uses a MPLS protocol, and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by a MPLS header which is added before a header of a layer corresponding to layer 3 of the Open System Interconnection (OSI) model (layer 3 header), and

in a network which does not use said MPLS protocol, packet switching is performed by a header of a layer corresponding to layer 2 of the OSI model (layer 2 header), which is different from said MPLS header and is added before said layer 3 header, and

wherein said packet transfer device comprises:

a first physical port which receives a packet that is transmitted from a network which does not use said MPLS protocol,

a second physical port for connecting with said MPLS network,

a memory that stores header transformation information that shows correspondence between a pair of information in said layer 2 header and information in said layer 3 header in correspondence with information in said MPLS header, and

a processor that searches said header transformation information and

transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to said layer 2 header recited in claim 1,

wherein:

said layer 2 header and said MPLS header each contain packet priority information; information, and

a packet that is transferred in said MPLS network and a packet that is transferred in a network which does not use said MPLS protocol have, after said layer 3 header, ~~the header~~ a header of the layer ~~a layer~~ that corresponds to layer 4 of the OSI model (~~hereinafter referred to as "layer 4 header"~~ layer 4 header),

wherein said packet transfer device comprising ~~comprises~~:

a second memory that stores ~~the priority transformation information that shows either the correspondence between a pair of said of~~ packet priority information in said layer 2 header and either the information in said layer 3 header, a pair of packet priority information in said layer 2 header and ~~or the information in said layer 4 header, and said priority information in said MPLS header;~~ or the correspondence between a group of the packet priority information in said layer 2 header, ~~the~~ and the information in said layer 3 header ~~header~~, and the information in said layer 4 header, ~~and in correspondence with~~ said priority information in said MPLS header,

wherein said processor searches said priority transformation information and transforms said priority information in said layer 2 header contained in a packet received from said first physical port to said priority information in said MPLS header

corresponding to ~~itsaid~~ priority information in said layer 2 header.

5. (currently amended) A packet transfer device that interworks an ~~MPLS~~ multiprotocol label switching (MPLS) network which uses multiprotocol label switching protocol (~~hereinafter referred to as "MPLS"~~) and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by ~~the MPLS~~ a MPLS header which is added before ~~the header~~ a header of the layer corresponding to layer 3 of the Open System Interconnection (OSI) model (~~hereinafter referred to as "layer 3 header"~~); ~~(layer 3 header)~~, and

in a network which does not use said MPLS protocol, packet switching is performed by ~~the header~~ a header of the layer corresponding to layer 2 of the OSI model (~~hereinafter referred to as "layer 2 header"~~ layer 2 header), which is different from said MPLS header and is added before ~~the header~~ a header of the layer corresponding to layer 3 of the OSI model (~~hereinafter referred to as "layer 3 header"~~ layer 3 header),

wherein said packet transfer device comprising ~~comprises~~:

a first physical port which receives a packet that is transmitted from said ~~MPLS network~~; network,

a second physical port for connecting with a network which does not use said ~~MPLS protocol~~; protocol,

~~memory~~ a memory that stores ~~the header~~ header transformation information

that shows ~~the correspondence~~ correspondence between a pair of information of said MPLS header information and the information in said layer 3 header, ~~and the in~~ correspondence with information in said layer 2 header; and

a processor that searches said header transformation information and transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to ~~its~~ said layer 2 header.

6. (currently amended) The packet transfer device recited in claim 5, wherein: the information in said MPLS header is ~~the label~~ a label value in said MPLS header; and

the information in said layer 2 header is ~~the information~~ information that identifies ~~the groups~~ groups to which ~~the transmission~~ a transmission source and destination of a packet that is transmitted from a network which does not use said MPLS protocol belong.

7. (currently amended) ~~The packet~~ A packet transfer device recited in claim 6 ~~that interworks multiprotocol label switching (MPLS) network which uses a MPLS protocol and a network that does not use said MPLS protocol, wherein:~~

in said MPLS network, packet switching is performed by a MPLS header which is added before a header of the layer corresponding to layer 3 of the Open System Interconnection (OSI) model, and

in a network which does not use said MPLS protocol, packet switching is

performed by the header of the layer corresponding to layer 2 of the OSI model (layer 2 header), which is different from said MPLS header and is added before the header of the layer corresponding to layer 3 of the OSI model (layer 3 header).

wherein said packet transfer device comprises:

a first physical port which receives a packet that is transmitted from said MPLS network,

a second physical port for connecting with a network which does not use said MPLS protocol,

a memory that stores header transformation information that shows correspondence between a pair of information in said MPLS header and information in said layer 3 header in correspondence with information in said layer 2 header, and

a processor that searches said header transformation information and transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to said layer 2 header.

wherein:

the information in said MPLS header is a label value in said MPLS header,  
and

the information in said layer 2 header is information that identifies the groups to which a transmission source and destination of a packet that is transmitted from a network which does not use said MPLS protocol belong,

wherein:

a physical port number is assigned to said first physical port; and



said header transformation information shows the correspondence between a group of said physical port number, the value of said label and the information in said layer 3 header, and the information that identifies the groups to which the transmission source and destination of a packet transmitted from a network which does not use said MPLS protocol belong.

8. (currently amended) The packet transfer device recited in claim 5, wherein:  
said layer 2 header and said MPLS header each contain packet priority information; ~~and~~ information, and

a packet that is transferred in said MPLS network and a packet that is transferred in a network which does not use said MPLS protocol have, after said layer 3 header, ~~the header~~ a header of the layer ~~a layer~~ corresponding to layer 4 of the OSI model (hereinafter referred to as "~~layer 4 header~~" layer 4 header),

wherein said packet transfer device comprising ~~further comprises~~:

a second memory that stores ~~the priority transformation information that~~ shows ~~either the correspondence between a pair of said~~ of packet priority information in said MPLS header and either the information in said layer 3 header header, or a pair of packet priority information in said layer 2 header and the information in said layer 4 header, ~~and said priority information in said layer 2 header; or the correspondence between a group of the~~ of packet priority information in said MPLS header, header, and the information in said layer 3 header header, and the information in said layer 4 header, ~~and~~ header in correspondence with said

priority information in said layer 2 header,

wherein said processor searches said priority transformation information and transforms said priority information in said MPLS header contained in a packet received from said first physical port to said priority information in said layer 2 header corresponding to itsaid priority information in said MPLS header.

9. (currently amended) The packet transfer device recited in claim 8, wherein:

said MPLS header is a shim header; and

the priority information used in said MPLS network is set to ~~the 3-bit~~ a 3-bit Exp field defined in said shim header.

10. (currently amended) The packet transfer device recited in claim 8, wherein:

said MPLS header is an asynchronous transfer mode ATM-(ATM) cell header;header, and

the priority information used in said MPLS network is set to ~~the cell-~~ a cell loss priority bit (CLP) field defined in said ATM cell header.

11. The packet transfer device recited in claim 6, wherein:

~~the tag-~~ a tag control information field defined by IEEE 802. 1Q is set in said layer 2 header; and

the information that identifies ~~the groups-~~ groups to which the transmission

source and destination of a packet transmitted from a network which does not use said MPLS protocol belong is ~~the VLAN ID~~ a VLAN ID that is set in said tag control information field.

12. (currently amended) The packet transfer device recited in claim 6, wherein:

~~the tag~~ a tag control information field defined by IEEE 802.1Q is set in said layer 2 header; ~~header~~, and

the packet priority information in said layer 2 header is ~~the user~~ a user priority that is set in said tag control information field.

13. (currently amended) A packet transfer control method in a packet transfer device that interworks an ~~MPLS~~ multiprotocol label switching (MPLS) network which uses ~~a MPLS multiprotocol label switching protocol~~ (hereinafter referred to as "~~MPLS~~") and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by ~~the label~~ a label in the ~~MPLS~~ a MPLS header which is added before the ~~header~~ a header of the ~~layer~~ a layer corresponding to layer 3 of the Open System Interconnection (OSI) model (hereinafter referred to as "~~layer 3 header~~" layer 3 header);

in a network which does not use said MPLS protocol, packet switching is performed by the ~~header~~ a header of the ~~layer~~ a layer corresponding to layer 2 of the OSI model (hereinafter referred to as "~~layer 2 header~~"), which is different from said

MPLS header and is added before said layer 3 header; and

a plurality of logical networks that are identified by ~~the identifier~~ an identifier in said layer 2 header are configured in the network which does not use said MPLS protocol,

wherein said packet transfer control method ~~comprising~~ comprises the steps of:

setting ~~the correspondence~~ correspondence between said identifier and said label in said packet ~~transfer device~~ device.

determining to which network among said plurality of logical networks a received packet belongs, using said identifier in said layer 2 header that is added to ~~the received~~ a received packet, when the packet is received from the network which does not use said MPLS protocol;

checking said ~~correspondence~~ correspondence.

determining said label to be added to said received ~~packet~~ packet.

checking said correspondence when the packet is received from said MPLS network; network.

determining said identifier to be associated to said label added to said received packet in said MPLS network; and

determining to which network among said plurality of logical networks said received packet is to be transmitted from said MPLS network.

14. (currently amended) ~~The packet~~ A packet transfer control method recited

in claim 13 in a packet transfer device that interworks a multiprotocol label switching (MPLS) network which uses multiprotocol label switching protocol and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by a label in the MPLS header which is added before a header of a layer corresponding to the layer 3 of the Open System Interconnection (OSI) model (layer 3 header);

in a network which does not use said MPLS protocol, packet switching is performed by a header of a layer corresponding to layer 2 of the OSI model (layer 2 header), which is different from said MPLS header and is added before said layer 3 header; and

a plurality of logical networks that are identified by an identifier in said layer 2 header are configured in the network which does not use said MPLS protocol,

wherein said packet transfer control method comprises the steps of:

setting correspondence between said identifier and said label in said packet device,

determining to which network among said plurality of logical networks a received packet belongs, using said identifier in said layer 2 header that is added to the received packet, when the packet is received from the network which does not use said MPLS protocol,

checking said correspondence,

determining said label to be added to said received packet,

checking said correspondence when the packet is received from said MPLS

network,

determining an identifier to be associated to said label added to said received packet in said MPLS network, and

determining to which network among said plurality of logical networks said received packet is to be transmitted from said MPLS network,

wherein:

said layer 2 header is a VLAN packet header defined by ~~IEEE 802.1Q;~~IEEE 802.1Q,

said identifier is ~~the value~~a value that is set in the VLAN ID ~~field;~~field, and

said layer 3 header is an Internet protocol (IP) header.

15. (currently amended) ~~The packet~~A packet transfer control method in a packet transfer device that interworks a multiprotocol label switching (MPLS) network which uses a MPLS protocol and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by a label in the MPLS header which is added before a header of a layer corresponding to the layer 3 of the Open System Interconnection (OSI) model (layer 3 header);

in a network which does not use said MPLS protocol, packet switching is performed by a header of a layer corresponding to layer 2 of the OSI model (layer 2 header), which is different from said MPLS header and is added before said layer 3 header; and

a plurality of logical networks that are identified by an identifier in said layer 2 header are configured in the network which does not use said MPLS protocol,

wherein said packet transfer control method comprises the steps of:

setting correspondence between said identifier and said label in said packet device,

determining to which network among said plurality of logical networks a received packet belongs, using said identifier in said layer 2 header that is added to the received packet, when the packet is received from the network which does not use said MPLS protocol,

checking said correspondence,

determining said label to be added to said received packet;

checking said correspondence when the packet is received from said MPLS network,

determining an identifier to be associated to said label added to said received packet in said MPLS network, and

determining to which network among said plurality of logical networks said received packet is to be transmitted from said MPLS network,

recited in claim 13, wherein:

said layer 2 header contains the ~~priority~~ priority information for the ~~packet~~ packet transfer in the network which does not use said MPLS protocol; and

said MPLS header contains the ~~priority~~ priority information for the ~~packet~~ packet transfer in said MPLS network,

wherein said packet transfer control method ~~comprising~~ further comprises the step of:

transforming said priority information in said layer 2 header to said priority information in said MPLS header.

16. (currently amended) The packet transfer control method recited in claim 15, wherein:

said layer 2 header is a VLAN packet header defined by IEEE 802.1Q;

said priority information in said layer 2 header is ~~the value~~ a value that is set in ~~the user~~ an user priority field;

said MPLS header is a shim header; and

~~the priority~~ priority information in said MPLS header is ~~the value~~ a value of the 3-bit Exp field.

17. (currently amended) The packet transfer control method recited in claim 15, wherein:

said layer 2 header is a VLAN packet header defined by IEEE 802.1Q;

said priority information in said layer 2 header is ~~the value~~ a value that is set in ~~the user~~ an user priority ~~field~~ field;

said MPLS header is an ATM cell header; and

~~the priority~~ priority information in said MPLS header is the value of ~~the cell~~ a cell loss priority bit (CLP) field.



18. (currently amended) The packet transfer control method recited in claim 16, wherein: said layer 3 header is an Internet protocol (IP) header.

19. (currently amended) A setup method for a packet transfer device that interworks a multi protocol label switching an (MPLS) network in which packet switching is performed by the MPLS multiprotocol label switching (hereinafter referred to as "MPLS") header and a network in which packet switching is performed by a VLAN packet header defined by IEEE 802. 1Q, wherein:

said MPLS header possesses a label that is the connection identifier of said MPLS network, and the priority information for the packet transfer in said MPLS network,

wherein said method comprising the steps of:

setting the correspondence between the value to be set to the VLAN ID field in said VLAN packet header and the label in said MPLS header; and

setting the correspondence between the value to be set to the user priority field in said VLAN packet header and said priority information in said MPLS header.

What is claimed is:

1. A packet transfer device that interworks an MPLS network which uses multiprotocol label switching (hereinafter referred to as "MPLS"), and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by the MPLS header which is added before the header of the layer corresponding to layer 3 of the Open System Interconnection (OSI) model (hereinafter referred to as "layer 3 header"); and

in a network which does not use said MPLS protocol, packet switching is performed by the header of the layer corresponding to layer 2 of the OSI model (hereinafter referred to as "layer 2 header"), which is different from said MPLS header and is added before said layer 3 header,

wherein said device comprising:

a first physical port which receives a packet that is transmitted from a network 15 which does not use said MPLS protocol;

a second physical port for connecting with said MPLS network;

memory that stores the header transformation information that shows the correspondence between a pair of the information in said layer 2 header and the information in said layer 3 header, and the information in said MPLS header; and

a processor that searches said header transformation information and transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to it.

2. The packet transfer device recited in claim 1, wherein:

the information in said layer 2 header is the information that identifies the groups to which the transmission source and destination of a packet that is transmitted from a network which does not use said MPLS protocol belong; and

the information in said MPLS header is the label value in said MPLS header.

3. The packet transfer device recited in claim 2, wherein:

a physical port number is assigned to said first physical port; and

said header transformation information shows the correspondence between a group of said physical port number, the information that identifies the groups to which the transmission source and destination of a packet transmitted from a network which does not use said MPLS protocol belong and the information in said layer 3 header, and said label value.

4. The packet transfer device recited in claim 1, wherein:

said layer 2 header and said MPLS header each contain packet priority information;

a packet that is transferred in said MPLS network and a packet that is transferred in a network which does not use said MPLS protocol have, after said layer 3 header, the header of the layer that corresponds to layer 4 of the OSI model (hereinafter referred to as "layer 4 header"),

wherein said device comprising:

memory that stores the priority transformation information that shows either the correspondence between a pair of said packet priority information in said layer 2 header

and either the information in said layer 3 header or the information in said layer 4 header, and said priority information in said MPLS header; or the correspondence between a group of the packet priority information in said layer 2 header, the information in said layer 3 header and the information in said layer 4 header, and said priority information in said MPLS header,

wherein said processor searches said priority transformation information and transforms said priority information in said layer 2 header contained in a packet received from said first physical port to said priority information in said MPLS header corresponding to it.

5. A packet transfer device that interworks an MPLS network which uses multiprotocol label switching (hereinafter referred to as "MPLS") and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by the MPLS header which is added before the header of the layer corresponding to layer 3 of the Open System Interconnection (OSI) model (hereinafter referred to as "layer 3 header"); and

in a network which does not use said MPLS protocol, packet switching is performed by the header of the layer corresponding to layer 2 of the OSI model (hereinafter referred to as "layer 2 header"), which is different from said MPLS header and is added before the header of the layer corresponding to layer 3 of the OSI model (hereinafter referred to as "layer 3 header"),

wherein said device comprising:

a first physical port which receives a packet that is transmitted from said MPLS

network;

a second physical port for connecting with a network which does not use said MPLS protocol;

memory that stores the header transformation information that shows the correspondence between a pair of said MPLS header information and the information in said layer 3 header, and the information in said layer 2 header; and

a processor that searches said header transformation information and transforms said layer 2 header contained in a packet received from said first physical port to said MPLS header corresponding to it.

6. The packet transfer device recited in claim 5, wherein:

the information in said MPLS header is the label value in said MPLS header; and

the information in said layer 2 header is the information that identifies the groups to which the transmission source and destination of a packet that is transmitted from a network which does not use said MPLS protocol belong.

7. The packet transfer device recited in claim 6, wherein:

a physical port number is assigned to said first physical port; and

said header transformation information shows the correspondence between a group of said physical port number, the value of said label and the information in said layer 3 header, and the information that identifies the groups to which the transmission source and destination of a packet transmitted from a network which does not use said MPLS protocol belong.

8. The packet transfer device recited in claim 5, wherein:

said layer 2 header and said MPLS header each contain packet priority information; and

a packet that is transferred in said MPLS network and a packet that is transferred in a network which does not use said MPLS protocol have, after said layer 3 header, the header of the layer corresponding to layer 4 of the OSI model (hereinafter referred to as “layer 4 header”),

wherein said device comprising:

memory that stores the priority transformation information that shows either the correspondence between a pair of said packet priority information in said MPLS header and either the information in said layer 3 header or the information in said layer 4 header, and said priority information in said layer 2 header; or the correspondence between a group of the packet priority information in said MPLS header, the information in said layer 3 header and the information in said layer 4 header, and said priority information in said layer 2 header,

wherein said processor searches said priority transformation information and transforms said priority information in said MPLS header contained in a packet received from said first physical port to said priority information in said layer 2 header corresponding to it.

9. The packet transfer device recited in claim 8, wherein:

said MPLS header is a shim header; and

the priority information used in said MPLS network is set to the 3-bit Exp field defined in said shim header.

10. The packet transfer device recited in claim 8, wherein:  
said MPLS header is an ATM cell header; and  
the priority information used in said MPLS network is set to the cell loss priority bit (CLP) field defined in said ATM cell header.

11. The packet transfer device recited in claim 6, wherein:  
the tag control information field defined by IEEE 802.1Q is set in said layer 2 header; and  
the information that identifies the groups to which the transmission source and destination of a packet transmitted from a network which does not use said MPLS protocol belong is the VLAN ID that is set in said tag control information field.

12. The packet transfer device recited in claim 6, wherein:  
the tag control information field defined by IEEE 802.1Q is set in said layer 2 header; and  
the packet priority information in said layer 2 header is the user priority that is set in said tag control information field.

13. A packet transfer control method in a packet transfer device that interworks an MPLS network which uses multiprotocol label switching (hereinafter referred to as

“MPLS”) and a network that does not use said MPLS protocol, wherein:

in said MPLS network, packet switching is performed by the label in the MPLS header which is added before the header of the layer corresponding to layer 3 of the Open System Interconnection (OSI) model (hereinafter referred to as “layer 3 header”);

in a network which does not use said MPLS protocol, packet switching is performed by the header of the layer corresponding to layer 2 of the OSI model (hereinafter referred to as “layer 2 header”), which is different from said MPLS header and is added before said layer 3 header; and

a plurality of logical networks that are identified by the identifier in said layer 2 header are configured in the network which does not use said MPLS protocol,

wherein said method comprising the steps of:

setting the correspondence between said identifier and said label in said packet device;

determining to which network among said plurality of logical networks a received packet belongs, using said identifier in said layer 2 header that is added to the received packet, when the packet is received from the network which does not use said MPLS protocol;

checking said correspondence;

determining said label to be added to said received packet;

checking said correspondence when the packet is received from said MPLS network;

determining said identifier to be associated to said label added to said received packet in said MPLS network; and



determining to which network among said plurality of logical networks said received packet is to be transmitted from said MPLS network.

14. The packet transfer control method recited in claim 13, wherein:  
said layer 2 header is a VLAN packet header defined by IEEE 802.1Q;  
said identifier is the value that is set in the VLAN ID field; and  
said layer 3 header is an Internet protocol (IP) header.

15. The packet transfer control method recited in claim 13, wherein:  
said layer 2 header contains the priority information for the packet transfer in the network which does not use said MPLS protocol; and  
said MPLS header contains the priority information for the packet transfer in said MPLS network,  
wherein said method comprising the step of:  
transforming said priority information in said layer 2 header to said priority information in said MPLS header.

16. The packet transfer control method recited in claim 15, wherein:  
said layer 2 header is a VLAN packet header defined by IEEE 802. 1Q;  
said priority information in said layer 2 header is the value that is set in the user priority field;  
said MPLS header is a shim header; and  
the priority information in said MPLS header is the value of the 3-bit Exp field.

17. The packet transfer control method recited in claim 15, wherein:  
said layer 2 header is a VLAN packet header defined by IEEE 802.1Q;  
said priority information in said layer 2 header is the value that is set in the user priority field;  
said MPLS header is an ATM cell header; and  
the priority information in said MPLS header is the value of the cell loss priority bit (CLP) field.

18. The packet transfer control method recited in claim 16, wherein:  
said layer 3 header is an Internet protocol (IP) header.

19. A setup method for a packet transfer device that interworks an MPLS network in which packet switching is performed by the multiprotocol label switching (hereinafter referred to as "MPLS") header and a network in which packet switching is performed by a VLAN packet header defined by IEEE 802.1Q, wherein:

said MPLS header possesses a label that is the connection identifier of said MPLS network, and the priority information for the packet transfer in said MPLS network,

wherein said method comprising the steps of:

setting the correspondence between the value to be set to the VLAN ID field in said VLAN packet header and the label in said MPLS header; and

setting the correspondence between the value to be set to the user priority field

in said VLAN packet header and said priority information in said MPLS header.